

CLAIMS

What is claimed is:

1. An organoammonium salt of a Group VI metal, comprising the reaction product of a metal acid hydrate of formula  $\text{MO}_4\text{H}_2\cdot\text{H}_2\text{O}$  with at least one alkyl amine, wherein M is selected from the group consisting of tellurium, selenium, tungsten and molybdenum.
2. The organoammonium salt of claim 1, wherein the metal acid hydrate is the reaction product of a sodium metal dihydrate of formula  $\text{Na}_2\text{MO}_4\cdot 2\text{H}_2\text{O}$  and an acid.
3. The organoammonium salt of claim 1, wherein the reaction product of the metal acid hydrate and the alkyl amine is formed by refluxing.
4. The organoammonium salt of claim 1, wherein the alkyl amine is of the formula  $\text{R}^1\text{R}^2\text{NH}$ , wherein  $\text{R}^1$  and  $\text{R}^2$  may be identical or different, and are selected from the group consisting of hydrogen, linear or branched, saturated or unsaturated  $\text{C}_2\text{-C}_{40}$  alkyl,  $\text{C}_3\text{-C}_{40}$  cycloalkyl,  $\text{C}_6\text{-C}_{40}$  aryl,  $\text{C}_7\text{-C}_{40}$  alkaryl and aralkyl.
5. The organoammonium salt of claim 4, wherein  $\text{R}^1$  and  $\text{R}^2$  are selected from the group consisting of hydrogen, and a linear or branched, saturated or unsaturated  $\text{C}_2\text{-C}_{40}$  alkyl.
6. The organoammonium salt of claim 4, wherein  $\text{R}^1$  and  $\text{R}^2$  is a linear or branched, saturated or unsaturated  $\text{C}_5\text{-C}_{18}$  alkyl.

7. The organoammonium salt of claim 4, wherein  $R^1R^2NH$  is di-tridecylamine and M is tungsten or molybdenum.

8. The organoammonium salt of claim 4, wherein  $R^1R^2NH$  is di-n-octylamine, and M is tungsten or molybdenum.

9. The organoammonium salt of claim 1, wherein M is tungsten or molybdenum.

10. The organoammonium salt of claim 1, wherein at least one alkyl amine further comprises two different dialkyl amines.

11. A lubricating composition comprising

(a) a major amount of a lubricating oil, and

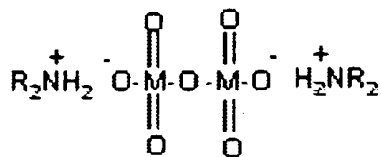
(b) the organoammonium salt of claim 1 in an amount between about

0.025 to 5.0 wt.-%, based on the total weight of the lubricating composition.

12. The lubricating composition of claim 11, wherein the concentration of the organoammonium salt is between about 0.05 to 2.0 wt.-%.

13. The lubricating composition of claim 12, wherein the concentration of the organoammonium salt is between about 0.09 to 0.5 wt.-%.

14. An organoammonium metal compound having the formula



wherein (a) M is an ion of a Group VI metal; and

(b) R<sup>1</sup> and R<sup>2</sup> may be identical or different, and are selected from the group consisting of hydrogen, linear or branched, saturated or unsaturated C<sub>2</sub>-C<sub>40</sub> alkyl, C<sub>3</sub>-C<sub>40</sub> cycloalkyl, C<sub>6</sub>-C<sub>40</sub> aryl, C<sub>7</sub>-C<sub>40</sub> alkaryl and aralkyl.

15. The organoammonium metal compound of claim 14 wherein R<sup>1</sup> and R<sup>2</sup> is hydrogen, or a linear or branched, saturated or unsaturated C<sub>2</sub>-C<sub>40</sub> alkyl.

16. The organoammonium metal compound of claim 14 wherein R<sup>1</sup> and R<sup>2</sup> is a linear or branched, saturated or unsaturated C<sub>5</sub>-C<sub>18</sub> alkyl.

17. The organoammonium metal compound of claim 14 wherein R<sup>1</sup> and R<sup>2</sup> is a linear or branched, saturated or unsaturated C<sub>5</sub>-C<sub>18</sub> alkyl.

18. The organoammonium metal compound of claim 14 wherein R<sup>1</sup>R<sup>2</sup>NH<sub>2</sub><sup>+</sup> is di-tridecylammonium and M is tungsten or molybdenum.

19. The organoammonium metal compound of claim 14 wherein R<sup>1</sup>R<sup>2</sup>NH<sub>2</sub><sup>+</sup> is di-n-octylammonium and M is tungsten or molybdenum.

20. The organoammonium metal compound of claim 14 wherein M is selected from the group consisting of tellurium, selenium, tungsten and molybdenum.

21. A process for preparing an organoammonium salt of a Group VI metal, comprising the step of:

reacting a metal acid hydrate of formula  $\text{MO}_4\text{H}_2\cdot\text{H}_2\text{O}$  with at least one alkyl amine, wherein M is selected from the group consisting of tellurium, selenium, tungsten and molybdenum.

22. The process of claim 21, further comprising the step of preparing the metal acid hydrate by reacting a sodium metal dihydrate of formula  $\text{Na}_2\text{MO}_4\cdot 2\text{H}_2\text{O}$  and an acid.

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24. The process of claim 21, wherein the alkyl amine is of the formula  $\text{R}^1\text{R}^2\text{NH}$ , wherein  $\text{R}^1$  and  $\text{R}^2$  may be identical or different, and are selected from the group consisting of hydrogen, linear or branched, saturated or unsaturated  $\text{C}_2\text{-C}_{40}$  alkyl,  $\text{C}_3\text{-C}_{40}$  cycloalkyl,  $\text{C}_6\text{-C}_{40}$  aryl,  $\text{C}_7\text{-C}_{40}$  alkaryl and aralkyl.

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